Installation Guide

NXA-WAP250G 802.11b/g Wireless Access Point

AMX's new NXA-WAP250G 802.11b/g Wireless Access Point (**FG2255-50**) provides both high performance and increased security to support all of AMX's G4 Modero wireless touch panels. The NXA-WAP250G (FIG. 1) provides convenient WLAN access for office/home computers with connection speeds of up to 54Mbps. This Wi-Fi certified WAP incorporates wireless encryption standards such as enterprise-grade WPA2, WPA, 802.1x, MAC address filtering and 64-bit/128-bit WEP encryption.

For more detailed installation, configuration and operating instructions refer to the *NXA-WAP250G Wireless Access Point* Instruction Manual, available on-line at www.amx.com.

FIG. 1 NXA-WAP250G Wireless Access Point

ATTENTION!

Refer to the NXA-WAP250G Management Guide (available online at www.amx.com) for more detailed product information.

Specifications

NXA-WAP250G (FG2255-50) Specifications	
Maximum Channels	• FCC/IC: 1-11 • ETSI: 1-13 • MKK: 1-13
Maximum Clients	32 per VAP interface
Data Rate	• 802.11g: 6, 9, 11, 12, 18, 24, 36, 48, 54 Mbps per channel • 802.11b: 1, 2, 5.5, 11 Mbps per channel
Modulation Type	• 802.11g: CCK, BPSK, QPSK, OFDM • 802.11b: CCK, BPSK, QPSK
Network Configuration	Infrastructure
Operating Frequency	• 2.4 ~ 2.4835 GHz (US, Canada, ETSI) • 2.4 ~ 2.483 GHz (Japan)
Wireless Output Power	• 802.11b: 18 dBm (typical) • 802.11g: 17 dBm @ 6 Mbps, 14dBm @ 54 Mbps
Wireless Receive Sensitivity	• 802.11b: -90 dBm @ 1 Mbps, -84 dBm @ 11 Mbps • 802.11g: -86 dBm @ 6 Mbps, -68 dBm @ 54 Mbps
AC Power Adapter	• Input: 100-240 VAC, 50-60 Hz • Output: 5 VDC, 2 A
Unit Power Supply	• DC Input: 5 VDC, 2 A maximum • Power Consumption: 6.5 W maximum
LED Indicators	• POWER (Power), • LAN (Ethernet Link/Activity), • WLAN (Wireless Link/Activity)
Network Management	Web-browser
Temperature	• Operating: 0 to 50 °C (32 to 122 °F) • Storage: -20 to 70 °C (32 to 158 °F)
Humidity	15% to 95% (non-condensing)
Compliances	• FCC Part 15B Class B • EN 55022 Class B • EN 55024 • EN61000-3-2 • EN61000-3-3
Standards	• IEEE 802.3-2005 10BASE-T, 100BASE-TX • IEEE 802.11b, g • Wi-Fi 11b/g, WPA, WPA2, WMM
Radio Signal Certification	• FCC Part 15C 15.247, 15.207 (2.4 GHz) • EN 300-328 • EN 301 489-1 • EN 301 489-17 • ARIB STD-T66 • IC RSS-210
Safety	• EN 60950-1 • IEC 60950-1 (CB)

NXA-WAP250G Specifications (Cont.)	
Included Accessories:	• AC power adapter set (includes 4 plug snaps) • Category 5 (CAT5) network cable • NXA-WAP250G Installation Guide • WallMount/Surface mounting installation kit (including two screws)

Power Connector

The access point does not have a power switch. It is powered on when connected to the AC power adapter, and the power adapter is connected to a power source. The power adapter automatically adjusts to any voltage between 100-240 volts at 50 or 60 Hz. No voltage range settings are required.

Ethernet Port

The access point has one 10BASE-T/100BASE-TX RJ-45 port that can be attached directly to 10BASE-T/100BASE-TX LAN segments. These segments must conform to the IEEE 802.3-2005 specifications.

This port supports automatic MDI/MDI-X operation, so you can use straight-through cables for all network connections to PCs, switches, or hubs.

Reset Button

The Reset button is used to restart the access point or restore the factory default configuration. If you hold down the button for less than 5 seconds, the access point will perform a hardware reset. If you hold down the button for 5 seconds or more, any configuration changes you may have made are removed, and the factory default configuration is restored to the access point.

Hardware Installation

To install the Access Point, follow these steps:

1. **Select a Site** – Choose a proper place for the access point. For optimum performance, consider these points:
   - Mount the access point as high as possible above any obstructions in the coverage area. Avoid mounting next to or near building support columns or other obstructions.
   - Mount away from any signal absorbing or reflecting structures (such as those containing metal).
   - Avoid radio interference by mounting away from other 802.11b or g wireless devices.
2. **Mount the Access Point** – The access point is designed to be mounted on any horizontal surface, such as a desktop, or on a wall. The access point can be mounted on a wall by marking the position of the mounting screws (included) on the wall so they line up with the two mounting slots on the bottom of the access point. Set the screws into the wall, leaving about 3 mm (0.12 in.) clearance from the wall. Then slide the access point down onto the screws.
3. **Connect the Power Cord** – Connect the power adapter to the access point, and plug the power adapter into an AC power outlet.

***CAUTION** - Use ONLY the power adapter supplied with the access point. Otherwise, the product may be damaged.*

4. **Observe the Indicator LEDs** – When you power on the access point verify that the POWER LED turns on and that the other LED indicators start functioning as described under "LED Indicators".
5. **Connect the Ethernet Cable** – The access point can be connected to any 10 or 100 Mbps Ethernet network device, such as a hub or a switch. Connect your network to the RJ-45 port on the back panel using category 3, 4, or 5 UTP Ethernet cable. When the access point and the connected device are powered on, the LAN LED should turn on indicating a valid network connection. If the LAN LED fails to turn on, refer to "Troubleshooting".

***Note**: The RJ-45 port on the access point supports automatic MDI/MDI-X operation, so you can use straight-through cables for all network connections to PCs, switches, or hubs.*

Access Point Configuration

The access point can be configured by connecting a PC to its Ethernet port and accessing the web interface. The default IP address of the access point is 192.168.1.240, with login user name "Admin" and default password "1988".

For more information, refer to the Management Guide.

Twisted-Pair Cable Assignments

For 10/100BASE-TX connections, a twisted-pair cable must have two pairs of wires. Each wire pair is identified by two different colors. For example, one wire might be green and the other, green with white stripes. Also, an RJ-45 connector must be attached to both ends of the cable.

***CAUTION** - Each wire pair must be attached to the RJ-45 connectors in a specific orientation. (See "Crossover Wiring" and "Crossover Wiring" for an explanation.)*

***CAUTION** - DO NOT plug a phone jack connector into the RJ-45 port. Use only twisted-pair cables with RJ-45 connectors that conform with FCC standards.*

The following figure illustrates how the pins on the RJ-45 connector are numbered. Be sure to hold the connectors in the same orientation when attaching the wires to the pins.

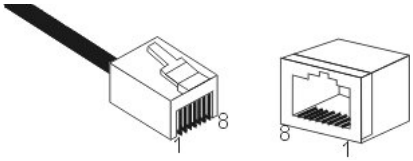

FIG. 2 RJ-45 connector pinouts

Straight-Through Wiring

If the twisted-pair cable is to join two ports and only one of the ports has an internal crossover (MDI-X), the two pairs of wires must be straight-through. FIG. 3 diagrams the RJ-45 pinouts and signals for the Ethernet RJ-45 connector and cable.

FIG. 3 Straight-Through Wiring

Hardware Description

FIG. 4 shows the layout of the WAP250G connectors and components.

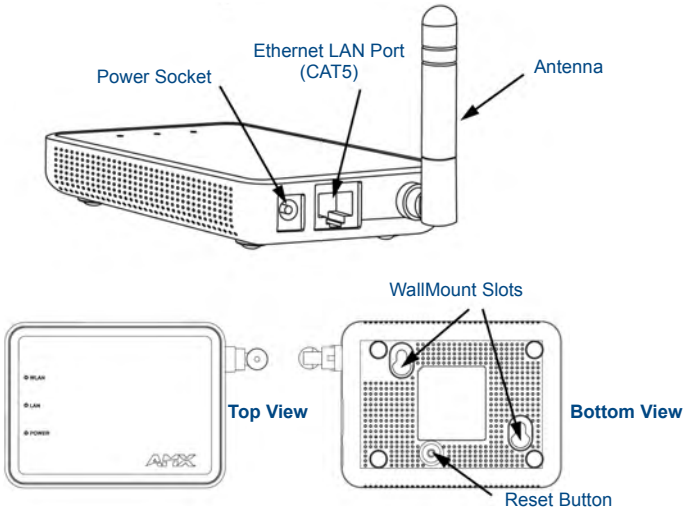

FIG. 4 NXA-WAP250G Component Locations

Reset Button Overview

The Reset Button (shown in FIG. 4) is used to either restart the WAP250G or restore the unit to its factory default settings.

- If you hold down the button for **less than 5 seconds**, the WAP will perform a hardware reset.
- Is you hold down the button for **more than 5 seconds**, any current configuration changes and settings (*such as IP Address, MAC Address, security, etc.*) are deleted and all of the unit's parameters are rest the factory defaulted settings.

LED Indicators

The access point includes three status LED indicators, as described in the following figure and table.

LED	Status	Description
POWER	On Green	Indicates that the system is working normally.
WLAN	On/Flashing Green	Indicates the 802.11g radio is enabled and transmitting or receiving data through wireless links. The flashing rate is proportional to network activity.
	Off	Indicates the 802.11g radio is disabled.
LAN	On/Flashing Green	Indicates a valid link on the Ethernet port and that the access point is transmitting or receiving data. The flashing rate is proportional to network activity.
	Off	The Ethernet port has no valid link.

Diagnosing Access Point Indicators

Symptom	Action
POWER LED is Off	• AC power adapter may be disconnected. Check connections between the access point, the power adapter, and the wall outlet.
LAN LED is Off	• Verify that the access point and attached device are powered on. • Be sure the cable is plugged into both the access point and corresponding device. • Verify that the proper cable type is used and its length does not exceed specified limits. • Check the cable connections for possible defects. Replace the defective cable if necessary.

For information on troubleshooting wireless connectivity issues, refer to the *NXA-WAP250G Management Guide (available online at www.amx.com)*.

Compliances

Federal Communication Commission Interference Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

- Reorient or relocate the receiving antenna
- Increase the separation between the equipment and receiver
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected
- Consult the dealer or an experienced radio/TV technician for help

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

FCC Caution: *Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.*

IMPORTANT NOTE: FCC Radiation Exposure Statement

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20 centimeters (8 inches) between the radiator and your body. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

The antenna(s) used for this transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

IEEE 802.11b or 802.11g operation of this product in the U.S.A. is firmware-limited to channels 1 through 11.

EC Conformance Declaration CE

Marking by the above symbol indicates compliance with the Essential Requirements of the R&TTE Directive of the European Union (1999/5/EC). This equipment meets the following conformance standards:

- EN 60950-1 (IEC 60950-1) - Product Safety
- EN 300 328 - Technical requirements for 2.4 GHz radio equipment
- EN 301 489-1, EN 301 489-17 - EMC requirements for radio equipment

This device is intended for use in the following European Community countries:

- Austria
- Belgium
- Denmark
- Finland
- France
- Germany
- Italy
- Luxembourg
- Netherlands
- Norway
- Spain
- Sweden
- Switzerland
- United Kingdom
- Portugal
- Greece
- Ireland
- Iceland

Requirements for indoor vs. outdoor operation, license requirements and allowed channels of operation apply in some countries as described below:

- In Italy the end-user must apply for a license from the national spectrum authority to operate this device outdoors.
- In Belgium outdoor operation is only permitted using the 2.46 - 2.4835 GHz band: Channel 13.
- In France outdoor operation is only permitted using the 2.4 - 2.454 GHz band: Channels 1 - 7.

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